*Smart Skies*™

**Solve a Problem**

**NASA**

## LineUp With Math™ Simulator

Smart Skies™

**Solving NASA Problem 3-6**

NASA

**Clock**

Running Time

Time for Best Solution

```
00:15
Target
3:36
```

**Cloud**

Route is Closed

**1**

**Problem**

Solve a Problem

Problem name

Click to select a new problem

Click to create a new problem

| Select Problem | Create Problem |

▷  ⏸  ⏩  ⏩⏩

| Review | Reset |

**2** Run The Problem

Normal Speed

Pause

4 Times Normal speed

10 Times Normal Speed

Replay your solution

Reset problem to starting conditions

Sector 33

MINAH
20    25    30    35    40
15
10
5    35
5    30
MOD    OAL    TPH    25
10    5    10    15    20    25    30    35
5
5
10
15    LIDAT
20    25    30    35

**3**

**Change Plane Speed or Route**

Data Tag - click and drag to move

AAL12 ▾
600 kts ▾

DAL88 ▾
600 kts ▾

Callsign - click to view or change route

UAL74 ▾
600 kts ▾

Plane Speed - click to change speed

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## Goal

to SFO | MOD

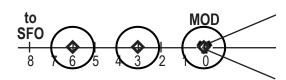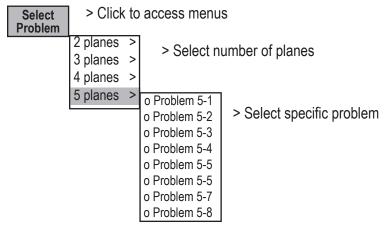8  7  6  5  4  3  2  1  0

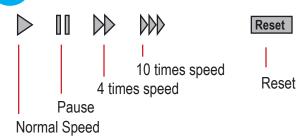Line up the planes at MOD using route or speed change so that:
- the planes are 3 nautical miles apart
- the last plane arrives as soon as possible
- before MOD, the planes are never closer than 2 miles.

## 1  Select a Problem

**Select Problem**

> Click to access menus

| 2 planes > |
| 3 planes > |
| 4 planes > |
| 5 planes > |

> Select number of planes

o Problem 5-1
o Problem 5-2
o Problem 5-3
o Problem 5-4
o Problem 5-5
o Problem 5-5
o Problem 5-7
o Problem 5-8

> Select specific problem

## 2  Run the Problem

▷   ❙❙   ▷▷   ▷▷▷           **Reset**

Normal Speed

Pause

4 times speed

10 times speed

Reset

## 3  Change Plane Route or Speed

Change a plane's route or speed to change the spacing of planes.
You can change a plane's route or speed while the problem is running or paused.

**Plane's datatag**

DAL88 ← Callsign
600 kts ← Speed in knots

> Use the plane's datatag to make the changes.

> Click and drag to move the datatag

### View a plane's planned route

> Click the plane's call sign to see the route menu

> Click Show Route

(If the simulator is Paused, the route will also show markers for where the plane will be in 1, 2, and 3 minutes)

### Change a plane's route

> Click the plane's call sign to see the route menu

> Click the new route

(The route will be highlighted for 15 seconds.)

### Change a plane's speed

> Click the plane's speed to see the speed menu

> Click the new speed

(If the simulator is Paused, the new speed will not show until the simulator is running.)

# Simulator User Guide

## Review a Problem

**Smart Skies™**



NASA

**Clock**
- Review Time
- Time for Best Solution

**①** **Problem**
- Replay your solution
- Problem name

LineUp With Math™ Simulator

Reviewing NASA Problem 3-6

```
00:16
Target
3:36
```

MINAH

AAL12 ▼
600 kts

MOD

OAL

TPH

DAL88 ▼
540 kts

LIDAT

UAL74 ▼
600 kts

Sector 33

**③**

**Route and Speed Changes Highlighted**

Speed Change - highlighted for 5 seconds.

Route Change - highlighted for 5 seconds.

0:00     3:36

▷   ⏸   ⏩   ⏭

Return to Solve

**②** **Review your Solution**

Drag slider to animate the planes

Your solution time

Run your solution

**④** Go back to Solve

# Smart Skies™

# Simulator User Guide

## Create or Modify a Problem

### LineUp With Math™ Simulator
#### Creating New Problem

SWA23    AAL12    UAL74

DAL88    NWA36

20
25    30    35
40
MINAH
15
USA51 ▼
35
10
600 kts ▼
5
30
5
25
MOD    OAL    TPH
10    5    5    10    15    20    25    30    35
5
5
10
15
LIDAT
20    25    30    35

**Sector 33**

---

**1**

**Drag a Plane to a Route**

- available routes are highlighted

- planes snap to mile markers

**2**

**Drag a Cloud to a Route**

- available routes are highlighted

**3**

**Adjust Plane Flight Plan**

**Select Plane**
- click symbol
- symbol is highlighted

**Set Starting Position** - drag a plane or click right or left arrows

**Set Starting Route** - use route menu to pick a route

**Set Starting Speed** - use speed menu to pick a speed

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**Control Bar**

| Select Problem | Clear | The Save feature is not available in this version. More Info | Return to Solve |

You can choose a problem to modify

Remove planes and clouds from sector

Learn how to Save problems you Create

**4** Return to Solve to try your problem